

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An autofocus-control device including a focus lens and an image-pickup sensor, the autofocus-control device comprising:

image-pickup means ~~which picks for picking-up up~~ an image of a subject in a cycle that is (1/interger N) times a cycle of an image-vertical-synchronization signal in synchronization with the cycle of the image-vertical-synchronization signal;[[,]]

calculation means ~~which calculates for calculating~~ a focus-evaluation value for performing an autofocus on the basis of a signal of the image picked up by the image-pickup means;[[,]] and

change means ~~which changes for changing~~ a distance between the focus lens and the image-pickup sensor on the basis of a plurality of the focus-evaluation values calculated by the calculation means,

wherein each of the plurality of focus-evaluation values are calculated at different focus-lens positions,

wherein the change means changes the distance so that integer-A times of the cycle of the image-vertical-synchronization signal and integer-B times of a wobbling cycle are synchronized with each other when integer A and integer B satisfy $2 \times B > A$.

2. (Currently Amended) The ~~An~~ autofocus-control device according to Claim 1, wherein the calculation means calculates the focus-evaluation value on the basis of a high-frequency component of a brightness signal of the image-pickup signal.

3. (Currently Amended) The ~~An~~ autofocus-control device according to Claim 1, further comprising merge means ~~which merges~~ for merging a plurality of the signals of a plurality of the images picked up by the image-pickup means.

4. (Currently Amended) The ~~An~~ autofocus-control device according to Claim 1, further comprising selection means ~~which selects~~ for selecting any one of a plurality of the signals of a plurality of the images picked up by the image-pickup means.

5. (Currently Amended) An autofocus-control method used for an autofocus-control device including a focus lens and an image-pickup sensor, the autofocus-control method comprising:

an image-pickup step of picking up an image of a subject in a cycle that is $(1/\text{integer } N)$ times a cycle of an image-vertical-synchronization signal in synchronization with the cycle of the image-vertical-synchronization signal;[[,]]

a calculation step of calculating a focus-evaluation value for performing an autofocus on the basis of a signal of the image picked up through processing performed at the image-pickup step;[[,]] and

a change step of changing a distance between the focus lens and the image-pickup sensor on the basis of a plurality of the focus-evaluation values calculated through processing performed at the calculation step,

wherein each of the plurality of focus-evaluation values are calculated at different focus-lens positions,

wherein the distance is changed, at the change step, so that integer-A times of the cycle of the image-vertical-synchronization signal and integer-B times of a wobbling cycle are synchronized with each other when integer A and integer B satisfy $2 \times B > A$.

6. (Currently Amended) A recording medium storing a computer-readable program used by an autofocus-control device including a focus lens and an image-pickup sensor, so as to perform autofocus-control processing, the program comprising:

an image-pickup step of picking up an image of a subject in a cycle that is $(1/\text{integer } N)$ times a cycle of an image-vertical-synchronization signal in synchronization with the cycle of the image-vertical-synchronization signal; [[,]]

a calculation step of calculating a focus-evaluation value for performing an autofocus on the basis of a signal of the image picked up through processing performed at the image-pickup step;[[,]] and

a change step of changing a distance between the focus lens and the image-pickup sensor on the basis of a plurality of the focus-evaluation values calculated through processing performed at the calculation step,

wherein each of the plurality of focus-evaluation values are calculated at different focus-lens positions,

wherein the distance is changed, at the change step, so that integer-A times of the cycle of the image-vertical-synchronization signal and integer-B times of a wobbling cycle are synchronized with each other when integer A and integer B satisfy $2 \times B > A$.

7. (Currently Amended) A program, executed by a processor, which makes a computer perform autofocus-control processing of an autofocus-control device including a focus lens and an image-pickup sensor, the program comprising:

an image-pickup step of picking up an image of a subject in a cycle that is $(1/\text{integer } N)$ times a cycle of an image-vertical-synchronization signal in synchronization with the cycle of the image-vertical-synchronization signal;[[,]]

a calculation step of calculating a focus-evaluation value for performing an autofocus on the basis of a signal of the image picked up through processing performed at the image-pickup step;[[,]] and

a change step of changing a distance between the focus lens and the image-pickup sensor on the basis of a plurality of the focus-evaluation values calculated through processing performed at the calculation step,

wherein each of the plurality of focus-evaluation values are calculated at different focus-lens positions,

wherein the distance is changed, at the change step, so that integer-A times of the cycle of the image-vertical-synchronization signal and integer-B times of a wobbling cycle are synchronized with each other when integer A and integer B satisfy $2 \times B > A$.

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